

**Engineering and Design
Coastal Inlet Hydraulics and Sedimentation**

Table of Contents

Subject	Paragraph	Page	Subject	Paragraph	Page																																																																																							
Chapter 1																																																																																												
Introduction																																																																																												
Purpose	1-1	1-1	Chapter 5																																																																																									
Applicability	1-2	1-1	Design Analysis of Tidal Inlets																																																																																									
References	1-3	1-1	Introduction	5-1	5-1																																																																																							
Bibliography	1-4	1-1	Navigation Channel Design	5-2	5-1																																																																																							
Background and Scope	1-5	1-1	Jetties	5-3	5-4																																																																																							
Overview of Manual	1-6	1-1	Sand Bypassing	5-4	5-9																																																																																							
Chapter 2																																																																																												
Inlet Geomorphology and Geology																																																																																												
Introduction	2-1	2-1	Introduction	6-1	6-1																																																																																							
Definitions	2-2	2-1	Terminology	6-2	6-1																																																																																							
Classification Schemes	2-3	2-4	Model Preparation	6-3	6-1																																																																																							
Morphology and Processes	2-4	2-8	Model Theory	6-4	6-2																																																																																							
Sedimentation and Stratigraphy	2-5	2-13	Types of Models	6-5	6-5																																																																																							
Sand Resource Potential of Inlet Deposits	2-6	2-23	Example Model Studies	6-6	6-7																																																																																							
Chapter 3																																																																																												
Hydrodynamic Analysis of Tidal Inlets																																																																																												
Purpose and Scope	3-1	3-1	Listing of Physical Model Studies	6-7	6-24																																																																																							
Governing Equations	3-2	3-1	Chapter 6																																																																																									
Hydraulic Parameters	3-3	3-4	Physical Modeling of Tidal Inlets																																																																																									
Inlet Stability Criteria	3-4	3-7	Chapter 4						Sediment Budget and Shoaling Rates						Introduction	4-1	4-1	Introduction	6-1	6-1	Components of a Coastal Sediment Budget	4-2	4-1	Terminology	6-2	6-1	Example Application	4-3	4-3	Model Preparation	6-3	6-1	Shoaling Rates	4-4	4-11	Model Theory	6-4	6-2	Chapter 7						Numerical Modeling of Tidal Inlets						Purpose and Scope	7-1	7-1	Types of Models	6-5	6-5	Overview of Physical Processes Considered	7-2	7-2	Example Model Studies	6-6	6-7	Long-Wave Models	7-3	7-3	Listing of Physical Model Studies	6-7	6-24	Short-Period Wave Models	7-4	7-4	Chapter 5			Wave-Induced Current Models	7-5	7-5	Sediment Transport	7-6	7-6	Design Analysis of Tidal Inlets			Numerical Modeling Systems	7-7	7-7	Numerical Model Implementation	7-8	7-8	Design Use of Model Results	7-9	7-9
Chapter 4																																																																																												
Sediment Budget and Shoaling Rates																																																																																												
Introduction	4-1	4-1	Introduction	6-1	6-1																																																																																							
Components of a Coastal Sediment Budget	4-2	4-1	Terminology	6-2	6-1																																																																																							
Example Application	4-3	4-3	Model Preparation	6-3	6-1																																																																																							
Shoaling Rates	4-4	4-11	Model Theory	6-4	6-2																																																																																							
Chapter 7																																																																																												
Numerical Modeling of Tidal Inlets																																																																																												
Purpose and Scope	7-1	7-1	Types of Models	6-5	6-5																																																																																							
Overview of Physical Processes Considered	7-2	7-2	Example Model Studies	6-6	6-7																																																																																							
Long-Wave Models	7-3	7-3	Listing of Physical Model Studies	6-7	6-24																																																																																							
Short-Period Wave Models	7-4	7-4	Chapter 5																																																																																									
Wave-Induced Current Models	7-5	7-5	Sediment Transport	7-6	7-6	Design Analysis of Tidal Inlets			Numerical Modeling Systems	7-7	7-7	Numerical Model Implementation	7-8	7-8	Design Use of Model Results	7-9	7-9																																																																											
Sediment Transport	7-6	7-6	Design Analysis of Tidal Inlets																																																																																									
Numerical Modeling Systems	7-7	7-7	Numerical Model Implementation	7-8	7-8	Design Use of Model Results	7-9	7-9																																																																																				
Numerical Model Implementation	7-8	7-8	Design Use of Model Results	7-9	7-9																																																																																							
Design Use of Model Results	7-9	7-9																																																																																										

Subject	Paragraph	Page	Subject	Paragraph	Page
Chapter 8 Guidelines for Planning Tidal Inlet Monitoring			Appendix B Notation		
Introduction	8-1				
Overview	8-2	8-1	Appendix C Summary of General Investigation of Tidal Inlets (GITI) Program Reports		
Phase I: Reconnaissance	8-3	8-2			
Phase II: Preliminary Measurements ..	8-4	8-5			
Phase III: Detailed Field Study	8-5	8-7	Appendix D Acknowledgement		
Summary	8-6	8-11			

Appendix A
Bibliography